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UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF PLANT INDUSTRY,
OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION.

NO. 82.

BULLETIN OF FOREIGN PLANT INTRODUCTIONS.

December 1, 1912, to January 15, 1913.

NEW PLANT IMMIGRANTS.

(NOTE: Applications for material listed in this bulletin may be made at any time to this Office. As they are received they are filed, and when the material is ready for the use of experimenters it is sent to those on the list of applicants who can show that they are prepared to care for it, as well as to others selected because of their special fitness to experiment with the particular plants imported.

One of the main objects of the Office of Foreign Seed and Plant Introduction is to secure material for plant experimenters, and it will undertake as far as possible to fill any specific requests for foreign seeds or plants from plant breeders and others interested.)

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PLATE: Quercus suber.

MATTER IN THIS BULLETIN IS NOT TO BE PUBLISHED WITHOUT SPECIAL PERMISSION.

ACANTHOPHOENIX SPP. (Phoenicaceae.) 34725-726. Seeds of palms from Port Louis, Mauritius. Presented by Mr. G. Regnard. Prickly palms, one of which, A. rubra, is said to have proved hardy in Florida. and to grow to a height of 60 feet. The upper rings of the stem are bright red. For distribution later.

ANTIDESMA BUNIUS. (Euphorbiaceae.) 34691. Seeds of the bignay from Manila, Philippine Islands. Presented by Mr. O. W. Barrett, Chief, Division of Horticulture, Bureau of Agriculture. "A small handsome tree, dioecious, with simple, dark green, leathery leaves. The fruit is small, dark red, sweet, subacid in flavor, and produced in long racemes like the currant, and may be eaten raw or made into jelly." (Barrett.) For distribution later.

ANTIDESMA NITIDUM. (Euphorbiaceae.) 34695. Seeds from Los Banos, Philippine Islands. Presented by Mr. C. F. Baker, College of Agriculture, University of the Philippines. "One of the finest local shrubs, of good shape and covered with great numbers of pendant clusters of small berries which are long, bright red, finally black, and which are edible. This should make an important addition to ornamental shrubs for warm countries." (Baker.) For distribution later.

ARCHONTOPHOENIX ALEXANDRAE. (Phoenicaceae.) 34738. Seeds of the Alexandra palm received from Lawang, Java. Presented by M. Buysmann. "The wood of this Queensland palm is beautifully marked, and is much in favor for walking sticks, the outer portion being cut into suitable thickness for this purpose. It grows to a height of 70 or 80 feet." (Maiden, Useful native plants of Australia.) For distribution later.

ARGANIA SPINOSA. (Sapotaceae.) 34667. Seeds of the argan from Tangier, Morocco. Presented by Mr. Maxwell Blake, American-Consul General. "The argan is a small tree with the appearance of the olive, and rarely exceeding 5 meters in height. Its young shoots are spiny and its leaves persistant. Its fruit is an ovoid drupe, greenish yellow, containing generally one but sometimes from 1 to 4, seeds, with a white kernel which yields 51.25 percent of a non-drying sweet oil, very much esteemed by the inhabitants of Morocco. The production of argan oil, in good years, according to M. Gentil, amounts to about 7,500,000 pounds, almost entirely used locally." (Capus and Bois, Produits Coloniaux.) For distribution later.

CANARIUM SP. (Balsameaceae.) 34694. Seeds of the pili nut from Manila, Philippine Islands. Presented by Mr. O. W. Barrett, Chief, Division of Horticulture, Bureau of Agriculture. "A large tree indigenous to the Philippines, that produces an edible nut of excellent quality. There are two species, C. ovatum and C. pachyphyllum, the nuts of which are very similar to each other. It is impossible, not having seen the tree from which the nuts were obtained, to say to which species the nuts belong which are being sent to you. Pili nuts are to some extent cultivated in southeastern Luzon interplanted with coconuts." (Barrett.) For distribution later.

CANAVALI SPP. (Fabaceae.) 34705-709. Seeds from Miami, Florida. Grown by Mr. Edward Simmonds at the Plant Introduction Field Station. "This seed was received in 1908 from Mr. J. S. Houser of the Cuban Experiment Station. It has proven very satisfactory as a green manure crop at Miami, the plants continuing to grow throughout the winter season." (Simmonds.) For a discusson of two of the species of this genus, see Mr. C. V. Piper's "The Jack Bean and the Sword Bean" in Miscellaneous papers, Circular No. 110, Bureau of Plant Industry, just published. For distribution later.

CLIANTHUS PUNICEUS. (Fabaceae.) 34716. Seeds of the kowhai from Wellington, New Zealand. Presented by Mr. G. J. Clapham, Public Works Department. "A white-flowered form of the kowhai, which in its scarlet-flowered form is one of the most gorgeous of New Zealand flowering plants. With its flowers two inches in length in long pendulous racemes and its heavy, dark-green glossy pinnate leaves it should prove a desirable addition to the drooping shrubs suitable for growing in regions having but slight frosts. The flowers are said to be pollinated by birds in its native haunts." (Blackwell and Laing, Plants of New Zealand.) For distribution later.

CURCUMA LONGA. (Zinziberaceae.) 34773. Roots of turmeric from Usumbwa, German East Africa. Presented by the Usumbwa Company, Post Tabora, Usumbwa. "Resembles ginger in the nature and form of its rhizomes and rounded tubers, but larger and shorter. In commerce they are separated into longs and rounds. In India much of the turmeric is used for dyeing silk, because the tuber contains a starch associated with a coloring matter (curcumine), of a beautiful orange yellow. Because of its essential aromatic oil it is used as a condiment in the Far East and especially in the manufacture of curry. Many tribes of Polynesia use it to stain their bodies and their hair. Curcuma is known still in the spice trade under the name of Indian saffron, and in the West Indies,

under that of coolie saffron." (Capus and Bois, Les Produits Coloniaux.) For distribution later.

DIOSPYROS KAKI. (Diospyraceae.) 34697. Cuttings of persimmon from Seoul, Korea. Presented by the American Consul-General, Mr. George H. Scidmore. "A hardy persimmon tree growing in the compound of this Consulate General, of the 'sheep nose' variety, said to have such good keeping qualities as to keep until a late Easter." (Scidmore). For distribution later.

DIOSPYROS KAKI. (Diospyraceae.) 34711. Cuttings of persimmon from Canton, China. Presented by Mr. G. Weidman Groff, Canton Christian College. "Taai Hung T'sz. Large red persimmon. This is decidedly the largest and sweetest persimmon I have ever seen. It does not have any of that astringent taste so common to the persimmon. It is very highly cultivated; rarely do you find a seed. The skin is thin and of a deep red color. Fruit that I have had on my own table of this variety measures eight inches around at its greatest circumference." (Groff.) For distribution later.

DIOSPYROS SP. (Diospyraceae.) 34713. Cuttings of a persimmon from Canton, China. Presented by Mr. G. Weidman Groff, Canton Christian College. "Kaai Sam T'sz. Chicken Hearted Persimmon. This is a rather inferior persimmon not commonly sold on the markets. The fruits are about the size and shape of a small egg and very difficult to ripen. A common method employed by the Chinese for ripening this fruit is to cover them over with the leaves of the bastard banyan tree for several days; of course we do not have frost here. This persimmon is used as the stock on which to graft the finer varieties." (Groff.) For distribution later.

EUCALYPTUS TRABUTI. (Myrtaceae.) 34661. Seeds of a hybrid Eucalyptus from Algiers, Algeria. Presented by Dr. L. Trabut, Director, Service Botanique. A hybrid found by Dr. Trabut in sowing seeds of Eucalyptus botryoides which stood near a Eucalyptus rostrata. Always tends to revert toward the male parent. It is the first undoubted Eucalyptus hybrid, and the existence of hybrids in this genus has been denied by Baron Ferdinand von Müller. This hybrid is one of the most vigorous of the genus, and in a nursery row at the Mustapha Experiment Station has crowded out the pure species. For distribution later.

FARADAYA SPLENDIDA. (Verbenaceae.) Presented by Mr. William Soutter, secretary and manager, Queensland Acclimati-

sation Society. "A very handsome climber, native of the more tropical regions of Queensland. The outer bark of the plant is used by the natives for stupefying fish. The green bark is tied in small bundles, weighted with a stone and dropped into holes where fish abound, the fish immediately becoming affected and rising to the surface where they are easily caught." (Soutter.) For distribution later.

GAULTHERIA SPP. (Ericaceae.) 34718-719. Seeds from Wellington, New Zealand. Presented by Mr. G. J. Clapham, Public Works Department. "The Gaultherias are the most attractive of the native New Zealand heaths with tiny white bell-shaped flowers." (Blackwell and Laing, Plants of New Zealand.) For distribution later.

JATROPHA CURCAS. (Euphorbiaceae.) 34714. Seeds from Tampico, Mexico. Presented by Mr. Thomas H. Bevan, American Vice-Consul in Charge. "A shrub about the size of a hazel nut bush, with a trunk from six inches to a foot in diameter. Its production is most prolific, the limbs often breaking off from the weight of the nuts. The nuts when first taken from the husks have a dark brown luster, which becomes opaque after being exposed to the air for a few days. When first taken from the tree they have a taste not at all unlike that of the fresh chestnut. They are said to contain about fifty percent of oil, which can be extracted and used for cooking, the same as cotton seed oil. These nuts can be seen growing in the yards of nearly all the Mexican houses in the outskirts of Tampico. The Mexicans prefer them to peanuts maintaining that their flavor is much more delicate. Along the narrow strip of land between the Tuxpam canal and the Gulf of Mexico in the State of Veracruz, they grow wild by the millions, and apparently thrive better in their native state growing in the sand dunes, than in the rich land in the valley of the Panuco." (Bevan.) Various botanists have described the oil as resembling that of the castor bean in its action so that due care should be taken in eating the seeds of this plant. For distribution later.

METROSIDEROS TOMENTOSA. (Myrtaceae.) 34715. Seeds of the pohutukawa from Wellington, New Zealand. Presented by Mr. G. J. Clapham, Public Works Department. "This handsome tree, sometimes 70 feet in height with spreading branches and brilliant scarlet flowers in large terminal cymes rarely grows far from the sea or an inland lake. It finds a foothold in all sorts of impossible looking places. Often it clings to the side of a cliff, and puts forth long twisted roots that attach it to the rocky wall. Specimens may frequently be found hang-

ing from the top of a bank, with the roots above, and the branches almost dipping into the sea below. When growing on level ground, great bunches of red fibrous rootlets may occasionally be seen hanging from the boughs. These do not reach the ground and their function is unknown. The timber is extremely hard and durable." (Blackwell and Laing, Plants of New Zealand.) For distribution later.

MOMORDICA COCHINCHINENSIS. (Cucurbitaceae.) 34692. Seeds from Manila, Philippine Islands. Presented by Mr. O. W. Barrett, Chief, Division of Horticulture, Bureau of Agriculture. "An attractive climber of medium vigorous growth, bearing roundish oblong fruits a little larger than an orange, having short orange colored spines." (Barrett.) For distribution later.

NICOTIANA RUSTICA. (Solanaceae.) 34752-754. Seeds of tobacco from Scafati, Italy. Presented by Mr. A. Splendore, Director, Royal Experimental Institute for the cultivation of tobacco. "These Nicotiana rusticas, abundantly fertilized with night-soil (from cess pools or pits) may yield up to 30 or more quintals (3000 lbs.) of leaves per hectare (2½ acres) with a nicotine content of over 10 percent in our climate." (Splendore.) Introduced for the use of tobacco growers interested in the increasing of the nicotine content for nicotine production. For distribution later.

OSTERDAMIA MATRELLA. (Poaceae.) 34657. Seeds of Manila grass from the Philippine Islands. Procured by Mr. C. V. Piper, in charge of Forage Crop Investigations. "This grass is abundant on or near the seashore in the Philippine Islands. Where closely clipped it makes a beautiful lawn. The Luneta in Manila some years ago was planted to Bermuda grass, but at the present time more than 90 percent of the grass is this Osterdamia, which has gradually displaced the Bermuda which it closely resembles in habit and appearance. The grass has unusual promise as a lawn grass, especially near the Gulf Coast and the Atlantic Coast of Florida." (Piper.) For distribution later.

PASANIA CUSPIDATA. (Fagaceae.) 34642. Seeds of an evergreen oak from Yokohama, Japan. Purchased from the Yokohama Nursery Company. An evergreen oak, growing to immense size but also used as a hedge shrub. Promises to be hardy as far north as Norfolk. The small-sized acorns, borne in bunches, have a sweet taste, and are eaten boiled or roasted like chestnuts. For distribution later.

PERSEA AMERICANA. (Lauraceae.) 34698. Seeds of avocado from Rome, Italy. Presented by Dr. Gustav Eisen. "The tree in question is in all probability about 100 years old and, though I do not know for certain, I think it likely to have been imported from Mexico by, or at least at the time of, Valadier, the French gardener and architect, who in the beginning of the nineteenth century arranged the Pincio garden. The tree is growing there in perfect vigor and health. Perhaps about forty feet high and the trunk several feet in diameter. The variety is one which I have never seen on the Pacific Coast of Mexico or Central America. The fruit being 3½ inches long by 2½ inches wide, pear-shaped, that is, tapering toward the stalk end. This year there were 100 fruits or over, all arriving at perfect maturity in October and November, the last ones being picked about November 15. The earlier fruits are larger and may average from ½ inch to 1 inch more than the size given above, which refers to the late fruits. In quality this fruit is equal to the very best that I have eaten in Guatemala and Mexico, and is of exquisite flavor. The seed is perfectly round, pale yellow brown and evidently perfectly developed. The variety is also characterized by its precocity, ripening before frost. It will succeed, without any doubt, in most parts of California, Arizona, southern Texas, the Gulf States generally, in a word in any territory extending from the northern limit of the hardiest orange southward, that means San Joaquin and Sacramento valleys, in California, the Coast Range, etc. Introduced to this territory the tree would prove of immense value and would enter at once into active competition with the Mexican and Island avocados now imported and sold at a prohibitive price." (Eisen.) As the temperatures in Rome average from 44.6° F. to 76.1°, with an absolute minumum of 17.2° F., it will be seen that this tree has considerable promise. However its location may be a very sheltered one, and Dr. Eisen's optimistic report may have to be modified considerably after tests in this country. For distribution later.

PITTOSPORUM RALPHII. (Pittosporaceae.) 34722. Seeds from Wellington, New Zealand. Presented by Mr. G. J. Clapham, Public Works Department. "A beautiful, somewhat laxly branched shrub 15 to 20 feet in height, found in the central district of the North Island of New Zealand. Its dark-crimson fascicled little flower bells with their slightly emergent yellow anther tips, resting on the downy white young foliage, make it, when in bloom, one of the most attractive of the large New Zealand shrubs." (Blackwell and Laing, Plants of New Zealand.) For distribution later .

POPULUS SPP. (Salicaceae.) 34789-801. Plants of poplars from Novospassko, Russia. Purchased from Mr. A. Woeikov. Thirteen species of poplars, all of which are reputed to be of especial hardiness, and several of which are extremely ornamental and more or less resistant to drought and alkali. For distribution later.

QUERCUS SUBER. (Fagaceae.) 34710. Acorns of cork oak from North Augusta, S. C. Presented by Dr. W. E. Mealing. "Collected from trees presumably sent out by the Patent Office before the Department of Agriculture was established." (Mr. Peter Bisset, at whose request they were presented.) For distribution later. See plate.

NOTES FROM FOREIGN CORRESPONDENTS.

BRITISH GUIANA. Georgetown. Mr. Jas. S. Ogilvie writes that so far he has been unable to procure for us the flowers, leaves and fruit of the different poison plants we wanted. He hopes to be able to get at least one blotter through about next March.

Mr. F. A. Stockdale, formerly assistant Director of Agriculture and Government Botanist, has accepted the position of Director of Agriculture of Mauritius.

CHINA. Szechuan. Chentu. Philip Hofman writes August 28: "This is the season of the persimmon out here and if you have ever tasted good Chinese seedless persimmons I know that your mouth will water for them. There are several varieties of the persimmon in West China. At present we are enjoying the red peach shaped variety, and later will come larger square shaped and large tomato shaped kinds. I have also eaten a variety that is very hard to the feel but quite as delicious as the mushy varieties. One eats these like apples rather than like cantaloupes with a spoon."

CHINA. Yunnan. Mr. A.K. Bulley writes from Liverpool, England, that Mr. George Forrest, who has been collecting alpines in Yunnan for an English amateur has been driven back from Teng Guch to Bhamo. Mr. F. Kingdon Ward goes out for Bees Ltd. (Mr. A. K. Bulley) next spring, but "Heaven only knows where!"

JAPAN. From the American Consulate General, Seoul, Korea (Chosen), Miss Eliza R. Scidmore, collaborator, reports as follows on Japanese beans and bean candies and jellies:

As mameya or bean shops, are more numerous in the streets

of Japanese towns than shops of any other kind, it proves that this vegetable is the most common and popular single article of food after rice. It is also much cheaper, and besides being recognized as a strong or nourishing food, it is considered a good luck food. If eaten at the first meal of the day, and on the first day of the year, the lucky beans will ensure strength and good luck for the day and the year. From the beginning of the modern era the people have been exhorted to grow and eat more beans and less rice. It was the Japanese who first appreciated the value and the trade possibilities of the more prolific soya bean of Manchuria and developed the great export trade in that article.

Eighteen kinds of mame are sold in the large wholesale shops, many of them varieties and qualities of the same bean. Dried peas are classed with beans and sold in the same shops, and are also cooked with sugar and sold as sweets. Besides cooking them with sugar and sweet shoyu, the boiled beans are made into neru, or sweet paste, and yokan or jelly, which are the base of three-fourths of all the sweets sold by confectioners.

The small red adzuki bean (S. P. I. No. 34643) is the one most used for these pastes and jellies, the white adzuki (S. P. I. No. 34644) only affording a color contrast and serving as a medium for other color devices. The plebian word mame is never applied to the adzuki. One asks for and refers to adzuki only. Three qualities are sold, the largest and reddest selling at about .15 U. S. cents for a measure equalling our quart. The medium quality, selling for about .10 cents a quart, is mostly used by confectioners. A meal or flour of ground and sifted adzuki is made but it is not used by the confectioners. The adzuki meal is most often used for making a soup or hasty pudding which is considered a valuable morning food for invalids, the aged, and delicate children. Much color and flavor is said to lie in the husks or thin shells, and this is lost by the use of the bolted meal. The "red rice" of festival occasions, the New Year, marriage feasts and other ceremonial events, is made by adding the rice to the water in which adzuki are already boiling and cooking them together.

For neru, or bean paste, adzuki are washed and boiled in large copper pans, the water twice changed in the half hour and each time as deeply dyed. When the adzuki are soft enough to press away between the fingers, the mass is thrown in a hopper and ground to break the skins which are removed by rubbing through a sieve. The pulp is pressed in a bag to expel all the water and cooked again with sugar, beaten and stirred all the time with a big paddle. This dark, red sweet paste which tastes something between maple sugar and candied chestnuts is most commonly met as balls or dumplings encased in a thin tough shell of soft rice paste. Glutinous rice flour is

mixed with yama imo, or nagai imo, wild or long potato, which when grated gives a foamy, ropy cream and is all the liquid needed to make a thick dough. Rounds of this well kneaded dough are deftly worked over a ball of bean paste and the dumplings are steam cooked in wooden trays. The thin tough rice membrane holds the paste in any shape it is moulded to and is a surface easily tinted or worked upon with relief devices. The dumplings are very often flattened out like muffins and toasted a rich brown which deceives many a stranger.

Yokan or bean jelly is made by adding kanten, a gelatine derived from sea weed, to the sweetened paste with a little water. It is poured into wooden boxes to cool and cut into slabs eight inches long and two inches wide, wrapped in dry bamboo husk and sold in thin wood or paper boxes. Neither the bean paste or the jelly will keep for any time, the yokan soon crystallizing on the outside and in time drying as hard as a stone in cold weather, or moulding in hot weather. Bits of candied chestnuts are sometimes added to yokan and there is kuri yokan made entirely of chestnuts, which costs three times as much as the plain bean yokan, but is warranted to keep for a long time. O'cha yokan is white bean paste strongly flavored and colored with powdered green tea leaves; and there is a kake yokan, a bright orange yellow jelly made of fresh persimmons with a little of bean paste and kanten gelatine. These tea and persimmon jellies are specialties of the Uji tea district and of Ogaki and Gifu and are attractively offered for sale at those railway stations in sections of split bamboo stem into which the jelly is poured to cool.

Adzuki are toasted or popped as we treat our dwarf Indian corn, but the grains do not open so widely. They are eaten merely toasted or they are salted or sugared over, or welded into an adzuki brittle with a syrup of ame (barley honey).

Kuro mame, (S. P.I. No.34645) or black beans, are made into paste and also yokan, in the same way as the adzuki. Kuro mame boiled with a little soda to soften their obdurate skin, with a pinch of salt and a big pinch of sugar added, after the water is poured off, are a favorite relish with flesh or fowl, and are always found in one corner of the dainty bento or luncheon box sold at railway stations. These kuro mame are more particularly the good luck bean than any of the others, and are a necessary accompaniment of the New Year feast.

The tender young Sora mame (S. P. I. No. 34646) are the favorite beans for popping. None of these toasted or popped beans foam out into the great white starchy kernels like pop

corn. The beans split only enough to show the white heart. They are quite solid and hard but if held in the mouth for a few minutes become soft. The sora mame have a sweetish taste and when cooked as a vegetable are further sweetened with sugar. Many of these beans seem naturally more sugary than the sugar beet.

When the sora mame is fully grown it becomes the big flat Ota Fuku (S. P. I. No. 34647), a huge bean with a tough olive skin that has to be removed by scalding with wood ashes before it can be cooked at all. Sugar or sweet shoyu are usually boiled with it when served as a vegetable. They are also popped and they are so very hard that it requires several minutes steaming in the mouth before the teeth can make an impression. In view of this hardness and the great food value of these large beans, it would be interesting to know if toasted ota fuku beans would not be as useful to the pedestrian and mountain climber as the traditional raisin held in the mouth, or the compact piece of chocolate.

Shiroi Endo (S. P. I. No. 34648), Aoi Endo (S. P. I. No. 34649), and Aka Endo, (S. P. I. No. 34650) are classed as beans, used as such and sold at bean shops, but are peas named for their distinguishing colors - white, blue and red. All three are sold toasted, and they are boiled and coated with sugar in several colors and become the favorite sweet of the children, who get a half pint of go-shiki-mame (five-colored-beans) for a penny. The aka endo, as brightly red as adzuki, are often boiled in sugar and used to decorate and encrust balls and cakes of bean paste or rice dough.

To Roku mame (S. P. I. No. 34651), which is a white bean the size of a small lima bean, gets its name To (10) Roku (6), because ten such beans laid in a row equal six sün or Japanese inches. It is boiled and rolled in sugar and is a very satisfactory sweet for the tea tray.

Shiroi daidze (S. P. I. No. 34654), the commonest and cheapest of all Japanese beans, is most used for the manufacture of tofu, or bean curd, and for shoyu, the pungent fermented sauce that we know as Worcester sauce when treated to capsicum and other hot spices. Shiroi daidze is used to make a cheaper white bean paste. This bean looks like a dried pea, but when soaked for even an hour in water it elongates to an oval bean. It is suspected that this bean is used in the manufacture of the many unsweetened brands of condensed milk, the taste of raw beans being unmistakable in all brands. Also, the milky fluid resulting from the first maceration of the beans for tofu was thrown away as useless until a few years ago, when a chemist discovered that it had the same chemical qualities as milk and all its nutritive value. Since then, the tofu factories have regularly made and sold "artificial milk", made by a process patented five years ago by Mr. Shugo Takano, a graduate of the Tokyo Bacteriological Laboratory.

QUERCUS SUBER. CORK OAK.

That the cork oak will attain a fair size in the Southern States is shown by this halftone of a small group of trees growing at Augusta, Georgia. No data are available concerning these trees, but they are supposed to have been grown from seed introduced by the Division of Forestry (now Forest Service) in 1891. Seeds from these trees or from others in the vicinity have been received for distribution by the Forest Service under S.P.I. No. 34710. Cork oaks grow to a height of 45 feet, rarely more, and are stripped of their bark first when they reach a diameter of about 16 inches. If left to themselves the bark is coarse, deeply creviced, and of no value for the production of cork, but if démasclage, or removal of the coarse outer bark is practiced, the inner bark grows to a considerable thickness and after an interval of ten or more years is removed. Five or six such harvests are yielded by the tree before the bark is exhausted as a cork producer, after which the bark may be used as a source of tannin. From photograph presented by the P. J. Berckmans Company, Augusta, Georgia.

(Issued: Feb. 14, 1913.